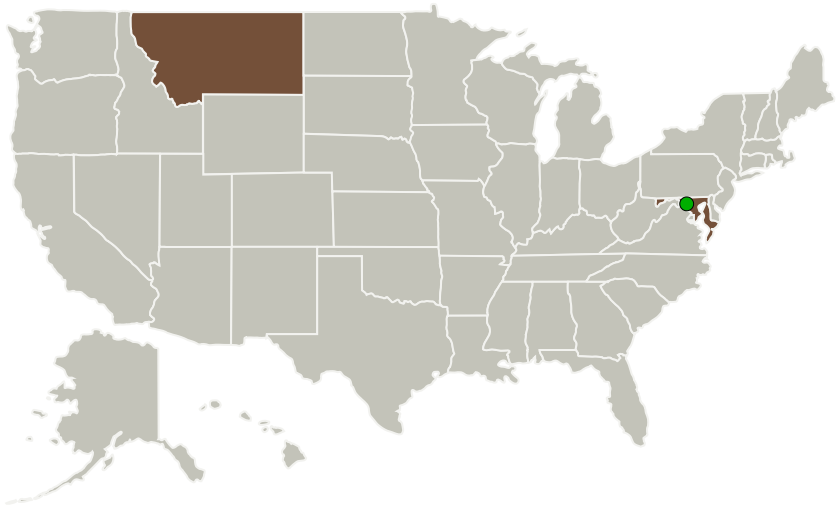
Fiber Coupled Pulse Shaper for Sub-Nanosecond Pulse Lidar, Phase II

Completed Technology Project (2011 - 2013)

Project Introduction

This Small Business Innovation Research Phase II effort will develop an all-diode laser and fiber optic based, single frequency, sub-nanosecond pulsed laser source for high resolution lidar applications benefiting SLR, LIST and DESDynI missions. This laser will have a user adjustable pulse width from 2ns to 400ps and will be ideal for seeding high power fiber amplifiers for short pulse, high resolution lidar transmitters. The highest utility of the proposed sub-nanosecond pulsed laser is simultaneously achieving narrow linewidth AND narrow pulse widths that can be set by the user for lidar instruments with <10cm vertical resolution.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
ADVR, Inc.	Lead Organization	Industry	Bozeman, Montana
Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations	
Maryland	Montana

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Project Transitions

June 2011: Project Start

November 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138865)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

ADVR, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Anthony Roberts

Co-Investigator:

Tony Roberts

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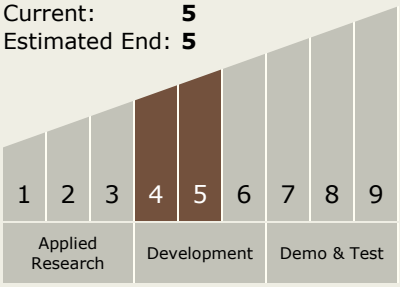
Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System